

linear, acute at the apex, fleshy at the base, glabrous, overtopping the inflorescence. Stem 1.5-2 cm long, terete, pubescent, bearing 2 unequal leaves below the terminal inflorescence. Cauline leaves subopposite, unequal, 1.5-6 cm long, linear, ± 1 mm broad at the base, the lower overtopping the inflorescence, the upper much shorter. Inflorescence 3-4 flowered, condensed scorpioid cyme. Flowers bisexual, hypogynous, broadly campanulate; pedicel 3-6 cm long, slender, pubescent; bracts foliaceous, 3-5 mm long, linear. Perianth biseriate, segments 6, free, 7-8 mm long, 1.7-2 mm broad, oblanceolate, acute at the apex, midvein prominent, dorsal side of outer segments pubescent. Stamens 6, free; filaments

± 4 mm long, 0.5 mm broad at the base, linear, attached at the base of the perianth; anthers ± 1.2 mm long, ± 1 mm broad, oblong, basifixed, latrorse in dehiscence. Pistil syncarpous, tricarpeal; ovary sessile, 3-3.5 mm long, ± 1 mm broad, oblong, trilobular, triquetrous; style 3-3.5 mm long, ± 0.5 mm across, stout, linear, triquetrous; stigma trifid, truncate. Fruit not seen. (Fig. 1).

PAKISTAN: Chitral, Drosh, 4500 ft, March 1908, *Major S. M. Toppin* 17 (holotype K).

We are grateful to the Director and Keeper of the Royal Botanic Gardens, Kew for the loan of specimens for revision of the genus *Gagea* in India and adjoining regions, which resulted in the discovery of this species.

DESCRIPTION OF A NEW GALL MIDGE SPECIES (DIPTERA: CECIDOMYIIDAE) FROM MAHARASHTRA, INDIA¹

R. M. SHARMA²
(With fourteen text-figures)

A new species of *Odontodiplosis* Felt, *O. raoi* sp. nov. is fully described and illustrated. A key to Indian species is also provided for easy identification.

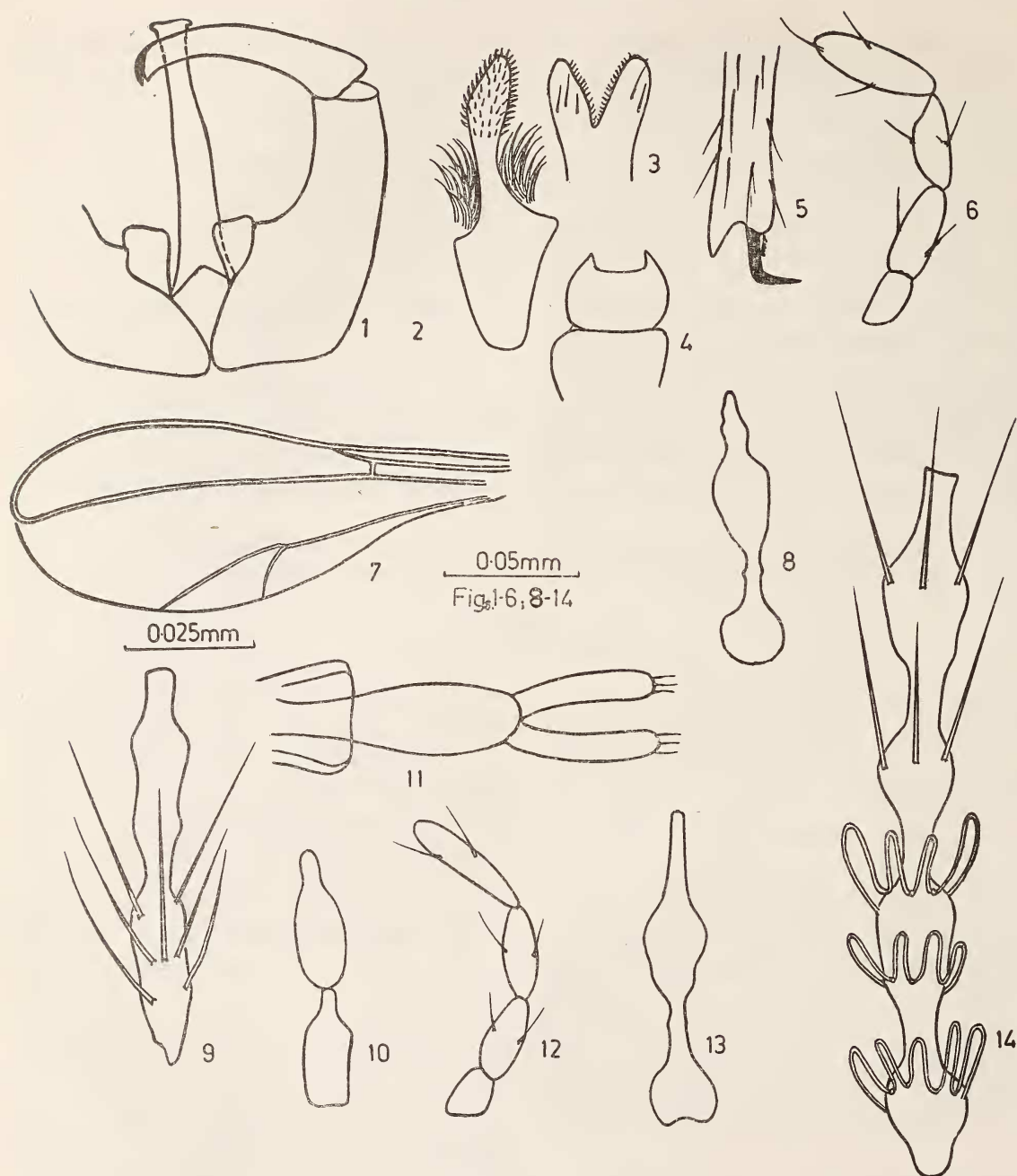
Odontodiplosis raoi sp. nov.

MALE: Body 1.10 mm long. Eyes confluent above. Trophi slightly produced. *Palpus*: quadriarticulate, moderately long, light-straw, sparsely setose; first segment (10:5) short, length 2.00 x its maximum thickness; second segment (14:6) cylindrical, longer than first, length 2.33 x its maximum thickness; third segment (14:6) cylindrical, broad subapically, as long as second; fourth segment (19:5)

cylindrical, longest of all, 3.80 x its maximum thickness. *Antenna*: Longer than body with 2 + 12 binodose, tricircumfilary segments, basal enlargement with one and apical with two whorls of regular circumfila; scape (10:17) cupshaped, pedicel (13:13) globose; third segment (50) confluent with and as long as fourth, with a very small basal prolongation (3:4), basal enlargement globose, 0.24 the length of the segment and as long as broad, basal stem (10:5) 0.83 the length of the basal enlargement and twice as long as thick; apical enlargement (15:11) longer than basal, 1.36 x its maximum thickness, apical stem (12:5) 0.80 the length of the apical enlargement and 2.40 x as long as thick; fourth segment (50) similar to the third, except for the apical stem (12:4) measuring 3.00 x its maximum thickness; fifth segment (48) shorter

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Figs. 1-14. *Odontodiplosis raoi* sp. nov.

1. Genitalia ♂; 2. Subdorsal plate; 3. Dorsal plate; 4. Scape & pedicel ♂; 5. Claw ♂; 6. Palpus ♂; 7. Wing ♂; 8. Terminal antennal segments ♂; 9. Third & fourth antennal segments ♀; 10. Third & fourth antennal segments ♂; 11. Third & fourth antennal segments ♀; 12. Palpus ♀; 13. Penultimate antennal segment ♂; 14. Third & fourth antennal segments ♂.

than fourth, basal enlargement (10:12) subglobose, 0.25 the length of the segment and wider than long, basal stem (10:4) as long as basal enlargement, 2.50 x as long as thick; apical enlargement (15:12) 1.50 x longer than basal enlargement and 1.25 x as long as thick; apical stem (15:4) as long as apical enlargement, 3.75 x its maximum thickness, distal segments gradually becoming shorter and thinner; terminal segment (40), shortest of all, basal enlargement (8:9) 0.20 the length of the segment and slightly wider than long, basal stem (10:2) longer than basal enlargement and 5.00 x as long as thick; apical enlargement (12:8) 1.50 x longer than basal enlargement and 1.50 x as long as thick, apical stem (9:4) in the form of an apical knob, 0.75 the length of the apical enlargement and 2.25 x as long as thick. *Wing*: (53:19) hyaline, 2.78 x as long as broad, costa hairy, vein *R*₁ ending a little beyond the basal $\frac{1}{4}$ of the wing, vein *R*_s distinct, Vein *R*₅ evenly curved, reaching wing margin well beyond the apex and interrupting costa at its union, vein *Cu* forked. *Legs*: long, densely hairy, metatarsus (8) shorter than terminal tarsal segment, second segment (45) longest of all, shorter than the following segments combined together (46); claw simple on all legs, bent at right angles; empodium rather narrow and rudimentary. *Genitalia*: Yellowish-brown, basal clasp segment (40:15) cylindrical, broad basally, with a very small triangular basal lobe, length 2.66 x its maximum thickness; terminal clasp segment (31:5) slender, gradually tapering towards the tip, ending in a tooth, 0.77 the length of the basal clasp segment and 6.20 x as long as thick; dorsal plate deeply bilobed (20:20), lobes triangular, setose, shorter than subdorsal plate; subdorsal plate (42:15) entire, straight, broad basally

and subapically, narrowed medially, pubescent, tip pointed or rounded; a pair of quadrate paramere lobes surrounding basal portion of aedeagus; cock's comb-like curved setae present at the basal portion of subdorsal plate on either side; aedeagus (50:5) cylindrical, longer than basal clasp segment and subdorsal plate, tip truncate with a median notch, length 10.00 x its maximum thickness.

FEMALE: Body 1.10 mm long, including ovipositor. Eyes, trophi and palpus as in male. *Antenna*: shorter than body, with 2 + 12 cylindrical segments with moderately long apical stems, enlargements with three whorls of long setae and low circumfila; scape and pedicel as in male; third segment (31) confluent with and longer than fourth, with a small basal prolongation (2:3) enlargement (21:8) 0.67 the length of the segment and 2.62 x as long as thick, stem (8:4) 0.38 the length of the enlargement and 2.00 x its maximum thickness; fourth segment (25) with enlargement (18:8) 0.61 the length of the segment and 2.25 x as long as thick, stem (7:3) 0.38 the length of the enlargement and 2.33 x as long as thick; fifth segment (22) shorter than fourth; penultimate segment (17) longer than twelfth; terminal segment (20) longer than penultimate, enlargement (14:7) 0.70 the length of the segment and twice as long as thick, stem in the form of a nipple-like prolongation (6:3), 0.42 the length of the enlargement and 2.00 x as long as thick. *Wing*, legs and claw as in male. *Ovipositor*: exerted, lamellate, lamellae (20:5) sparsely setose, cylindrical, length 4.00 x as long as thick.

Holotype: ♂, mounted on slide, INDIA, Maharashtra, Aurangabad, at light, 16.vii.1976, coll. R. M. Sharma.

Allotype: ♀, mounted on slide, *Paratypes*:

7 ♂♂ mounted on slides, data same as holotype.

All the types are deposited in the collections of Zoological Survey of India, Pune for the time being.

The species is named in honour of my teacher Prof. S. N. Rao (Retd), Marathwada University, Aurangabad, who has contributed much to the knowledge of Indian gall-midges.

KEY TO INDIAN SPECIES OF *Odontodiplosis* FELT

1. Palpi triarticulate
 *muirshikha* Grover & Bakshi, 1977-78
 Palpi quadriarticulate 2
2. Wings spotted
 *punctipennis* Grover & Bakshi, 1977-78
 Wings not spotted 3
3. Basal clasp segment with a large obtuse basal

lobe, parameres wanting, dorsal plate bilobed, denticulate; subdorsal plate triangular; cock's comb-like projections present between subdorsal plate and aedeagus on either side
 *orientalis* Sharma & Rao, 1979
 Basal clasp segment with a small triangular basal lobe, parameres present, dorsal plate bilobed, simple, subdorsal plate entire, straight, cock's comb-like curved setae present at the middle portion of subdorsal plate on either side *raoi* sp. nov.

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A NEW SUBSPECIES OF *SIMOCEPHALUS VIDYAE* RANE, 1983 (CLADOCERA, DAPHNIDAE) FROM JABALPUR, MADHYA PRADESH, INDIA¹

PRAMOD D. RANE²
 (With six text-figures)

INTRODUCTION

During the study of cladocera from Madhya Pradesh, Rane (1983) described a new species *Simocephalus vidyae* from Jabalpur district. While working on other accumulated collection I came across nine specimens of the same species, which though they have main diagnostic character, i.e. very large rostrum and long

beak like front of the head also have several other characters by which they can be distinguished from *S. vidyae*. Therefore these specimens are described here as a new subspecies.

DISCRIPTION

Simocephalus vidyae *gajareae* subsp. nov.
 (Figs. 1-6)

Material — 1 ♀ (holotype) and 8 ♀♀ (paratypes), Balsager tank behind medical college, c 7 km. s/w on Shahpura Road, 18 July 1982, Jabalpur, Madhya Pradesh, India,

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